

Jamie M. Jasinski

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Planetary Science (322)
Astrobiology & Ocean Worlds Group (3225)
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EDUCATION	PhD Space Plasma Physics 2015 UCL (University College London), UK Mullard Space Science Laboratory Advisors: Dr. Chris Arridge, Prof. Andrew Coates & Prof. Geraint Jones Thesis title: <i>Cassini Observations of Saturn's Magnetospheric Cusp</i>
	MSci Astrophysics 2011 UCL (University College London), UK Dept. of Physics and Astronomy
EMPLOYMENT	Scientist 2020 - NASA Jet Propulsion Laboratory, CA, USA
	NASA Postdoctoral Program Fellowship 2017 - 2020 NASA Jet Propulsion Laboratory, CA, USA 326 - Astrophysics & Space Sciences Section Advisor: Dr. Neil Murphy
	Postdoctoral Research Fellow 2015 - 2017 University of Michigan, MI, USA Dept. of Climate and Space Sciences and Engineering Advisor: Prof. James A. Slavin
AWARDS	2020 NASA JPL Team Award 2018 NASA Group Achievement Award, Cassini Plasma Spectrometer Team 2018 The Sir Arthur Clarke Award, UK Cassini-Huygens Team 2018 NASA JPL Bonus Award, "In recognition for outstanding support of Science Red Team pilot studies, providing a new capability to strengthen future mission and instrument proposals" 2017 NASA Postdoctoral Program Fellowship

GRANTS
AWARDED

Total Awarded: ~\$2 million

Current

- 2021 - 2023 Science-PI
NASA ROSES Exoplanet Research Program 2020
Space weather impacts on habitable exoplanets
\$515,337
- 2020 - 2021 Science-PI
JPL Strategic R&TD FY'21
Understanding Ice Giant Magnetospheres
\$330,000 (renewable up to \$495k).
- 2019 - 2022 Science-PI
NASA ROSES Discovery Data Analysis Program 2018
Sodium ions in the solar wind, magnetosheath and magnetosphere of Mercury
\$481,220
- 2019 - 2022 Science-PI
NASA ROSES Cassini Data Analysis Program 2018
Saturn's high-latitude magnetosphere: dynamics, composition and its coupling to the Solar Wind
\$441,731

Past

- 2017 - 2019 PI
NASA Postdoctoral Program Fellowship
2-years fully funded ~\$225,000

INVITED
TALKS

- 2021 Two Invited talks at AGU Fall Meeting 2021
1. *Reconnection at Saturn's Dayside Magnetopause*
(Session: Magnetospheres in the Outer Solar System)
2. *Photoionization of sodium-group atoms at Mercury's exosphere*
(Session: Magnetospheres in the Inner Solar System)
- 2021 *Mercury's Magnetosphere and Exosphere*
University of Colorado, Boulder, LASP.
Seminar
- 2021 *Saturn's magnetospheric cusp and high-latitude magnetosphere*
IRAP, France
Seminar
- 2020 *A transient enhancement of Mercury's exosphere at extremely high altitudes inferred from pickup ions*

- Hermean Environment Working Group
Presentation
- 2020 Invite-only workshop on *Surface Bounded Exospheres and Interactions in the inner Solar System*
International Space Science Institute, Switzerland
Presentation & book chapters.
- 2019 *Mercury's magnetosphere and exosphere: recent results from MESSENGER data*
UCLA, USA
Seminar
- 2018 *Mercury's magnetosphere: recent results from MESSENGER*
UCL, UK
Seminar
- 2014 *Solar wind interaction with the Outer Planets*
Lancaster University, UK
Seminar

PROGRAMMING Expert: IDL, LaTeX. Learning: Python.

PROFESSIONAL SERVICE **Journal Reviewer:** Nature Communications, Journal of Geophysical Research (JGR – Space Physics), Icarus, Geophysical Research Letters (GRL) and Annales Geophysicae.

Proposal Reviewer: NASA NSPIRES Solicitations (external and internal voting panelist); STFC Consolidated Grants.

Coordinated and directed a weekly Space Physics journal club at both the University of Michigan and NASA JPL.

Local Organizing Committee for The 6th Alfvén Conference (2014).

Member of the American Geophysical Union (AGU).

- TEACHING
- 2021 Laura Ocampo Alzate, JPL Student Intern, Masters student.
- 2021 Stephanie Colón-Rodríguez, JPL Student Intern, 3rd-year Undergraduate student.
- 2017 Yeimy Rivera, Austin Glass - University of Michigan Mentorship Program
- 2014 MSSL Summer School, UK
- Gave lectures, designed workshops and developed the aims of the Summer School.
- Taught a *Cassini Plasma Spectrometer Data Analysis* workshop. Voted as “Most Engaging” workshop by students.

SELECTED TALKS	2022	MExAG Annual Meeting, USA (Oral).
	2021	AGU Fall Meeting, New Orleans, LA, USA (Oral). (Session: The Uranus and Neptune Systems and Their Relation to Other Planets)
	2020	AGU Fall Meeting, Virtual, USA (Oral).
	2019	AGU Fall Meeting, San Francisco, CA, USA (Poster).
	2019	Magnetospheres of the Outer Planets (MOP), Japan (Poster).
	2018	AGU Fall Meeting, Washington D.C, USA (Poster)
	2018	Magnetospheres of the Outer Planets (MOP), Boulder, CO, USA (2 Posters)
	2018	ESLAB 52 Conference, ESTEC Noordwijk, Netherlands (Poster).
	2018	Mercury 2018 Meeting, Columbia, MA, USA (Oral)
	2017	Magnetospheres of the Outer Planets (MOP), Uppsala, Sweden (Oral).
	2016	AGU Fall Meeting, San Francisco, USA (Poster).
	2016	Outer Planet's Assessment Group Meeting, Arizona, USA (Poster).
	2016	Cassini MAPS Meeting, Ann Arbor, MI, USA (Oral).
	2016	EGU Meeting, Vienna, Austria (Poster).
	2015	AGU Fall Meeting, San Francisco, USA (Poster).
	2014	AGU Fall Meeting, San Francisco, USA (Oral).
	2014	The 6th Alfven Conference, London, UK (Oral).
	2014	Cassini Plasma Spectrometer (CAPS) Team Meeting, MSSL, UK (Oral).
	2013	Magnetospheres of the Outer Planets (MOP), Athens, Greece (Oral & Poster).
	2013	Cassini Magnetospheric and Particle Science (MAPS) Workshop, SwRI, San Antonio, USA (Oral).
2012	MIST (Magnetosphere Ionosphere Solar Terrestrial) Meeting, London, UK (Oral).	
2012	Cassini Plasma Spectrometer (CAPS) Team Meeting, MSSL, UK (Oral).	
PUBLIC OUTREACH	2017	The London Oratory School, "Exploring Saturn" Seminar (15-18 year olds), UK.
	2013	Royal Society Summer Science Exhibition, "Ice Worlds" Exhibitor (all ages), UK.
	2012	Westminster Under School, rocket building workshop and overview of the solar system (10-year olds), UK.
CONSULTING	2016	Science consultant for Urban Myth Films and Canal+ production of <i>War of the Worlds</i> TV Series.

PUBLICATIONS

Peer-Reviewed Journals:

23 published in 7 journals (10 first-authored).

2 under review (1 first-authored).

2022

[23]. Wurz et al., including **J. M. Jasinski** (accepted), *Particles and Photons as Drivers for Particle Release from the Surfaces of the Moon and Mercury*, **Space Sci Rev.**

[22]. Leblanc, F., et al., including **J. M. Jasinski** (2022), *Comparative Na and K Mercury and Moon exospheres*, **Space Sci Rev** 218, 2 (2022).
<https://doi.org/10.1007/s11214-022-00871-w>

2021

[21]. Cassidy et al., including **J. M. Jasinski** (2021), *Detection of Large Exospheric Enhancements at Mercury due to Meteoroid Impacts*, **Plan. Sci. J.**, 2:175, <https://doi.org/10.3847/PSJ/ac1a19>

[20]. Janches, D., et al., including **J. M. Jasinski**, (2021) *Meteoroids as one of the sources for exosphere formation on airless bodies in the inner solar system*, **Space Sci. Rev.** 217, 50.
<https://doi.org/10.1007/s11214-021-00827-6>

[19]. **Jasinski, J. M.**, et al., (2021) *Photoionization Loss of Mercury's Sodium Exosphere seasonal observations by MESSENGER and the THEMIS telescope*, **Geophys. Res. Lett.**, 48, e2021GL092980.
<https://doi.org/10.1029/2021GL092980>

[18]. **Jasinski, J. M.**, et al., (2021) *Flux Transfer Events at a reconnection-suppressed magnetopause: Cassini observations at Saturn*, **J. Geophys. Res. Space Phys.**, 126, e2020JA028786.
doi.org/10.1029/2020JA028786

2020

[17]. **Jasinski, J. M.**, et al., (2020) *A transient enhancement of Mercury's exosphere at extremely high altitudes inferred from pickup ions*, **Nature Communications**, doi:10.1038/s41467-020-18220-2.

[16]. **Jasinski, J. M.**, et al., (2020) *The importance of local interstellar conditions on the galactic cosmic ray spectrum at Exoplanets*, **Ap. J. Lett.**, 899, L18, doi.org/10.3847/2041-8213/aba7c8

[15]. Nordheim T., et al., including **J. M. Jasinski**, (2020), *Detection of negative pickup ions at Saturn's moon Dione*, **Geophys. Res. Lett.**, 47,

e2020GL087543, doi.org/10.1029/2020GL087543

[14]. Sun et al., including **J. M. Jasinski**, (2020), *MESSENGER observations of Mercury's nightside magnetosphere under extreme solar wind conditions: reconnection-generated structures and steady convection*, **J. Geophys. Res. Space Phys.**, 125, e2019JA027490, <https://doi.org/10.1029/2019JA027490>

2019

[13]. **Jasinski J. M.**, et al., (2019), *Saturn's open-closed field line boundary: a Cassini electron survey at Saturn's magnetosphere*, **J. Geophys. Res. Space Phys.**, 124. <https://doi.org/10.1029/2019JA027090>

[12]. Nordheim T. A, **J. M. Jasinski** & K. Hand, (2019), *Galactic cosmic ray bombardment of Europa's surface*, **Ap. J. Letters**, 881, L29, <https://doi.org/10.3847/2041-8213/ab3661>

[11]. Slavin et al., including **J. M. Jasinski**, (2019), *Mercury's magnetospheric Disappearing dayside events as observed by MESSENGER*, **J. Geophys. Res. Space Phys.**, 124. <https://doi.org/10.1029/2019JA026892>

2017

[10]. **Jasinski J. M.**, J. A. Slavin, J. M. Raines and G. DiBraccio (2017), *Mercury's solar wind interaction as characterized by magnetospheric plasma mantle observations with MESSENGER*, **J. Geophys. Res. Space Phys.**, 122, 12153–12169, doi:10.1002/2017JA024594

[9]. **Jasinski J.M.**, et al., (2017), *Diamagnetic depression observations at Saturn's magnetospheric cusp*, **J. Geophys. Res. Space Phys.**, 122, 6283–6303, doi:10.1002/2016JA023738.

[8]. Smith, A. W., et al., including **J. M. Jasinski** (2017), *Automated force free flux rope identification*, **J. Geophys. Res. Space Phys.**, 122, 780–791, doi:10.1002/2016JA022994

2016

[7]. **Jasinski J. M.**, et al., (2016) *Cassini Plasma Observations of Saturn's Magnetospheric Cusp*, **J. Geophys. Res. Space Phys.**, 121, 12047-12067, doi:10.1002/2016JA023310.

[6]. **Jasinski, J. M.**, et al., (2016) *Flux transfer event observation at Saturn's dayside magnetopause by the Cassini spacecraft*, **Geophys. Res.**

Lett., 43, 6713–6723, doi:10.1002/2016GL069260.

[5]. Arridge, C. S., **J. M. Jasinski**, et al. (2016), *Cassini observations of Saturn's southern polar cusp*, **J. Geophys. Res. Space Phys.**, 121, 3006–3030, doi:10.1002/2015JA021957.

[4]. Dunn, W. R., et al., including **J. M. Jasinski** (2016), *The impact of an ICME on the Jovian X-ray aurora*, **J. Geophys. Res. Space Phys.**, 121, 2274–2307, doi:10.1002/2015JA021888.

2014

[3]. **Jasinski, J. M.**, et al., (2014), *Cusp observation at Saturn's high latitude magnetosphere by the Cassini spacecraft*, **Geophys. Res. Lett.**, 41, 1382–1388. doi: 10.1002/2014GL059319

2013

[2]. Radioti, A., et al., including **J. M. Jasinski** (2013), *Auroral signatures of multiple magnetopause reconnection at Saturn*, **Geophys. Res. Lett.**, 40, 4498–4502, doi:10.1002/grl.50889.

2012

[1]. Kipping, D. M., Dunn, W. R., **Jasinski, J. M.** and Manthri, V. P. (2012), *A novel method to photometrically constrain orbital eccentricities: Multibody Asterodensity Profiling*, **Monthly Notices of the Royal Astro. Soc.**, 421: 1166–1188. doi:10.1111/j.1365-2966.2011.20376.x

Under review

[24] **Jasinski J. M.**, et al., *Neptune's pole-on magnetosphere: dayside reconnection observations by Voyager 2*, submitted to **Plan. Sci. J.**

[25]. Sun et al., including **J. M. Jasinski**, *MESSENGER observations of Na⁺ enhancement at Mercury's northern magnetospheric cusp during Flux Transfer Event Showers*, submitted to **JGR: Space Physics**.